IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF OKLAHOMA

W. A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA and OKLAHOMA SECRETARY OF THE ENVIRONMENT C. MILES TOLBERT, in his capacity as the TRUSTEE FOR NATURAL RESOURCES FOR THE STATE OF OKLAHOMA,	)
Plaintiff,	)
vs.	) 4:05-CV-00329-TCK-SAJ
TYSON FOODS, INC., et al,	)
Defendants.	)

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THE VIDEOTAPED DEPOSITION OF ROGER OLSEN, PhD, produced as a witness on behalf of the Defendants in the above styled and numbered cause, taken on the 2nd day of February, 2008, in the City of Tulsa, County of Tulsa, State of Oklahoma, before me, Lisa A. Steinmeyer, a Certified Shorthand Reporter, duly certified under and by virtue of the laws of the State of Oklahoma.

A P P E A R A N C E S

FOR THE PLAINTIFFS:
Mr. David Page
Attorney at Law
502 West 6th Street
Tulsa, OK 74119
-and-
Mr. Louis Bullock
Attorney at Law
110 West 7th Street
Suite 707
Tulsa, OK 74119

FOR TYSON FOODS:
Mr. Robert George
Mr. Michael Bond
Attorneys at Law
The Three Sisters Bldg.
214 West Dickson Street
Fayetteville, AR 72701

FOR CARGILL:
Ms. Leslie Southerland
Attorney at Law
100 West 5th Street
Suite 400
Tulsa, OK 74103

FOR SIMMONS FOODS:
Mr. John Elrod
Attorney at Law
211 East Dickson Street
Fayetteville, AR 72701

FOR PETERSON FARMS:
Ms. Nicole Longwell
Attorney at Law
320 South Boston
Suite 700
Tulsa, OK 74103

FOR GEORGE'S:	Mr. James Graves Attorney at Law 221 North College Fayetteville, AR 72701
FOR CAL-MAINE:	Mr. Robert Sanders Attorney at Law 2000 AmSouth Plaza P. O. Box 23059 Jackson, MS 39225 (Via phone)
FOR WILLOW BROOK:	Ms. Jennifer Griffin Attorney at Law 314 East High Street Jefferson City, MO 65109 (Via phone)

On the solid sides, we -- there's a couple other components. We did both sediments in the river and sediments in Tenkiller. So there's water compartments and then there's sediments compartment. I think I described each of the components in how the waste from the house ends up on the field, runs off, goes into groundwater, eventually into Tenkiller. 09:28AM

Q Okay. Thank you for the explanation. Now, let me go back to the affidavit and see if I understand what you meant by this language, okay, and if I don't, tell me. When you were talking in your affidavit about showing a direct path from the place of poultry waste disposal to locations in the IRW where contamination is found, you were referring to the various compartments that you had studied and the fact that the chemical signature that you've identified is found in each of those compartments; is that right? 09:28AM

A That's correct. 09:28AM

Q Okay. So you were not, sir, claiming to have identified a particular land application site and then traced geographically edge of field runoff from that site to a specific place of contamination; correct? 09:29AM

found elemental phosphorus; is that right?

A That's correct.

Q Okay. Let me hand you what we've marked as Exhibit 5, which is a document entitled scope of work. Do you recognize these sort of documents? I saw several of them in your production. 10:26AM

A Yes, sir.

Q What is a scope of work?

A That's really the starting point to work with the variety of experts to create a scope of work of what they need to be done and work with them, and there's usually a specific purpose associated with the scope of work. For purpose of this, I'm sure you discussed this with Dr. Harwood, was to develop a molecular tracking method for poultry, specific to poultry waste in the environment, and so this scope of work is a very general statement of what was going to be done. It gives the purpose, a background and then particular subtasks. 10:26AM

Q Who would have prepared the scope of work? 10:27AM

A I'm trying to figure out what version of this is. This looks like a very early version because it's very short or it may have been a later version that was attached. I'll read through it and I can tell you what it is, but to answer your question, we 10:27AM

worked with both Kent Sorenson and Dr. Harwood, Dr. Sorenson and Dr. Harwood and North Wind to develop a scope of work related to the overall purpose. So if you want me to take some time, I can tell you exactly where in that process this scope was developed. 10:27AM

Q Okay. I don't necessarily need to know that. I was just trying to get a feel whether CDM was involved in preparing the scopes of work; is that right? 10:27AM

A Yes, and particularly this one, I was involved in it working closely with Dr. Sorenson. I think Dr. Sorenson actually took the first shot at it, and then I reviewed it, Dr. Harwood reviewed it, and North Wind, of course, had to be involved in it. 10:28AM

Q Mr. Olsen, you see there are three subtasks that are identified in Exhibit No. 5, this scope of work; do you see that?

A Yes.

Q Okay. Subtask 2 refers to qPCR, and you're familiar with qPCR? 10:28AM

A Yes.

Q Is that the technique that Miss Harwood was using to try to identify DNA within bacteria that she could source to poultry? 10:28AM

A That's correct.
Q Okay. Subtask 2, was it completed?
A I know when this was now. This was at the beginning of 2007. So we already had a lengthier scope of work. So this was kind of a supplemental scope of work for costing for 2007 that we put together. As of this day, I think the number is approximately 211 samples that have been analyzed by qPCR techniques. 10:28AM
Q Okay. Let's talk up here and make our Record clear. Exhibit No. 5, the scope of work for bacteria analysis, refers to the collection of 500 samples; correct? 10:29AM
A Yes.
Q Okay. Is it your testimony, sir, that as we sit here today approximately 211 of those 500 samples have been collected? 10:29AM
MR. PAGE: Object to the form.
Q Did I understand that correctly?
MR. PAGE: Same objection. 10:29AM
A Well, there's more samples now that we're through 2007, and I think it actually talks about that. In addition, over a hundred samples will be collected. I don't know the exact number that were collected in 2007, but 2007 samples were also sent 10:29AM

conducted investigation that has found the same chemical signature for poultry waste that you claim to have found in the Illinois River watershed?

A That signature is unique. No one has ever done that extensive list analysis to do this; however, I base the selection of chemicals on what was in the literature. So it will -- those chemicals that I see in that signature match what's in the literature, but there's no one that's ever done a complete chemical signature that I know of that's published in -- someone may have done it. I don't know. 11:53AM

Q Are you aware of a single other scientist in the world who claims to have identified this list of 25 constituents and the coefficients that you've developed and called that a signature for chicken litter influencing water? 11:53AM

A I'm not aware of any.

Q You're the first person in the history of the world to have done that; is that true? 11:54AM

A Yeah, but I'm not the first person in the world to have created chemical signatures for contamination sources in rivers. That's in the literature. It's done routinely, and it's done for an extensive list of parameters, and that's why I 11:54AM

have such an extensive list of parameters, because it will create a unique signature.

Q Dr. Olsen, how long have scientists and governmental bodies been studying the potential impact of poultry litter on water quality in the United States? 11:54AM

MR. PAGE: Object to the form.

A I don't know the exact data. I'd have to go back and look at some of the literature sources.

Q You'll agree that work has been ongoing for at least decades? 11:54AM

MR. PAGE: Object to the form.

A I think it just most recently -- I don't know if it's been going on for decades, I can't determine that, but it's certainly got much more scrutiny in the last few years. 11:54AM

Q And during all the length of that study by scientists from other firms and government regulators, no one other than yourself has identified this 25 list of parameters in certain concentrations as a chemical signature for poultry litter; is that true? 11:55AM

MR. PAGE: Object to the form.

A That's my unique work to develop that signature, just like no one's ever developed a qPCR 11:55AM

for chicken, but we did it, and we did a signature, too.

Q Would the same be true with respect to the signatures that you believe you've identified for POTWs and cattle; no one else in the world has developed the list of parameters that you believe is distinct and unique for those sources of contamination despite all the years of work on water quality in the United States? 11:55AM

MR. PAGE: Object to the form. 11:55AM

A People have done the same thing for wastewater, and that's where I got some of my analysis, from one of the professors. I'd have to look to see what parameters he looked at and which ones he used in his analysis to determine whether -- 11:56AM he didn't do all 25 like I did, though, you know, but he used the same overriding principles to develop --

Q Who is he?

MR. PAGE: Would you let the witness answer the question, please? 11:56AM

Q I'm sorry, Mr. Olsen.

A Dr. Furman (sic) at Furman University.

MR. ELROD: Dr. Furman at Furman University? 11:56AM

small basins with high flow stations to these stations that are USGS stations on bigger streams.

Q I'm asking you about edge of field. Was there meant to be coordination between edge of field sampling and in-stream sampling in terms of geography and temporally? 05:48PM

A That's what I'm trying to tell you. The high flow stations were set up specifically based on chicken house density, which has some reflection of edge of field samples that could be taken from applied fields. 05:49PM

Q If I look at L3, edge of field, am I going to find that same bacteria subsequently in the stream in L1?

MR. PAGE: I'll object to the form. 05:49PM

Q Was that your intent?

A I don't know exactly the question. I'll try to figure out what -- could you restate that? I don't know if I understand what you are trying -- the question. 05:49PM

Q If it were possible to dye trace bacteria and you put a dye trace marker on the bacteria colony at edge of field, was it your intent that I would find that same colony of bacteria subsequently in-stream as displayed on L3? 05:50PM

A That same bacteria, no. That sampling is not meant to do that. Some of the bacteria are probably showing up downstream from the edge of fields, but that was not our intent to try to show that. The intent of the qPCR is to show that, but this is just generally sampling for all bacteria. 05:50PM

Q How long have you known Dr. Harwood?

A I first met Dr. Harwood and talked to her probably four or five years ago I think.

Q And are you the one that brought her into this team? 05:50PM

A I recommended her, but she was hired directly by the Oklahoma Attorney General.

Q Okay, but -- but for the fact that you recommended her, she would not be part of the team; isn't that true? 05:50PM

MR. PAGE: Object to the form.

Q You're the one that first brought up her name?

A Yes, I did.

Q And you've worked with her on other occasions; is that true? 05:50PM

A Yes. I think I worked with her once.

Q Is your income at CDM dependent upon or directly related to in any way bonuses or otherwise the amount of revenue that you generate for CDM? 05:51PM